

Figure 1A



REMARKS
 1 BssHII Hincll Spel
 GCGCGCGTTGACATTGATTATTGACTAGTTATTAAATAGTAATCAATTACGGGGTCATTA
 60 GTTCATAGCCCATAATGGAGTTCCCGCTTACATAACTACGGTAAATGGCCCGCCTGG
 119 CTGACCGCCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTAA
 178 CGCCAATAGGGACTTCCATTGACGTCAATGGGTGGACTATTCACGGTAAACTGCCAC
 Ndel
 237 TTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCTATTGACGTCAATGACGG
 CMV promotor
 296 TAAATGGCCCGCCTGGCATTATGCCAGTACATGACCTTATGGACTTTCTACTTGGC
 SnaB1
 355 AGTACATCTACGTATTAGTCATCGCTATTACCATGGTATGC GGTTTGGCAGTACATC
 414 AATGGGCGTGGATAGCGGTTGACTCACGGGATTCCAAGTCTCCACCCATTGACGT
 473 CAATGGGAGTTGTTGGCACCAAAATCAACGGACTTCCAAAATGTCGTAACAAC
 SacI
 532 CCGCCCCATTGACGCAAATGGCGGTAGGC GTTACGGTGGAGGTCTATATAAGCAGA
 T7-Promotor
 591 GCTCTCTGGCTAACTAGAGAACCCACTGCTTACTGGCTTATGAAATTAAACGACTCA
 →
 AgeI
 HindIII KpnI
 650 CTATAGGGAGACCCAAGCTTGGTACCGGTGCGATGGCACCTGCATGCTGCTCTGCTG
 → 1 MetAlaProCysMetLeuLeuLeu
 SfiI Apal EcoO109I
 NotI
 709 TTGGCGGCCCTGGCCCCACTCAGACCCGGCGGGGGCCAAAAGGAGAAGACCC
 10 LeuAlaAlaAlaAlaLLeuAlaProThrGlnThrArgAlaGlyAlaGlnLysGluLysThrPr
 768 CGAGGAGCCCAAGGAGGGAGGTGACCATCAAGGCCAACCTGATCTACGCCACGGCAAGA
 29 ProGluGluProLysGluGluValThrIleLysAlaAsnLeuIleTyrAlaAspGlyLysT
 827 CCCAGACCGCCGAGTTCAAGGGCACCTCGAGGGAGGCCACCGCGGGAGGCCTACCGCTAC
 49 ThrGlnThrAlaGluPheLysGlyThrPheGluGluAlaThrAlaGluAlaTyrArgTyr
 886 GCCGACGCCCTGAAGAAGGACAACGGCGAGTACACCGTGGACGTGGCCGACAAGGGCTA
 69 AlaAspAlaLeuLysLysAspAsnGlyGluTyrThrValAspValAlaAspLysGlyTy
 945 CACCTGAACATCAAGTTGGCCGGCAAGGAGAAGACCCCCGAGGGAGGCCAAGGAGGGAGG
 88 ThrLeuAsnIleLysPheAlaGlyLysThrProGluGluProLysGluGluV

Figure 1 B(cont'd I)



1004 TGACCATCAAGGCCAACCTGATCTACGGCGACGGCAAGACCCAGACCGCCGAGTTCAAG
 108► a1Thr11eLysA1aAsnLeu11eTyrA1aAspG1yLysThrG1nThrA1aG1uPheLys
 1063 GGCACCTTGAGGAGGCCACCGCGGAGGCCAACCGCTACCGCTACGCCGACGCCCTGAAGAAGGA
 128► G1yThrPheG1uG1uA1aThrA1aG1uA1aTyrArgTyrA1aAspA1aLeuLysLysAs
 1122 CAACGGCGAGTACACCGTGGACGTGGCCGACAAGGGCTACACCCCTGAACATCAAGTTCG
 147► pAsnG1yG1uTyrThrValAspValA1aAspLysG1yTyrThrLeuAsn11eLysPheA
 1181 CCGGCAAGGAGAAGACCCCCGAGGAGCCAAGGAGGGAGGTGACCATCAAGGCCAACCTG
 167► IaG1yLysG1uLysThrProG1uG1uProLysG1uG1uValThr11eLysA1aAsnLeu
 1240 ATCTACGGCGACGGCAAGACCCAGACCGCCGAGTTCAAGGGCACCTTGAGGGAGGCCAC
 187► I1eTyrA1aAspG1yLysThrG1nThrA1aG1uPheLysG1yThrPheG1uG1uA1aTh
 1299 CGGGGAGGCCAACCGCTACGGCGACGCCCTGAAGAAGGACAACGGCGAGTACACCGTGG
 206► rA1aG1uA1aTyrArgTyrA1aAspA1aLeuLysLysAspAsnG1yG1uTyrThrValA
 1358 ACGTGGCCGACAAGGGCTACACCCCTGAACATCAAGTTCGCCGGCAAGGAGAAGACCCCC
 226► spValA1aAspLysG1yTyrThrLeuAsn11eLysPheA1aG1yLysG1uLysThrPro
 1417 GAGGGAGCCAAGGAGGGAGGTGACCATCAAGGCCAACCTGATCTACGCCGACGGCAAGAC
 246► G1uG1uProLysG1uG1uValThr11eLysA1aAsnLeu11eTyrA1aAspG1yLysTh
 1476 CCAGACCGCCGAGTTCAAGGGCACCTTGAGGAGGCCACCGGGAGGCCAACCGCTACCGCTACG
 265► rG1nThrA1aG1uPheLysG1yThrPheG1uG1uA1aThrA1aG1uA1aTyrArgTyrA
 1535 CCGACGCCCTGAAGAAGGACAACGGCGAGTACACCGTGGACGTGGCCGACAAGGGCTAC
 285► IaAspA1aLeuLysLysAspAsnG1yG1uTyrThrValAspValA1aAspLysG1yTyr
 SgrA1 NotI
 1594 ACCCTGAACATCAAGTTGCCGGCGCGGGCGCAGAACAAAAACTCATCTCAGAAGAGGA
 305► ThrLeuAsn11eLysPheA1aG1yA1aA1aG1uG1nLysLeu11eSerG1uG1uAs

Sail

HincII

Acci

1653 TCTGAATGGGGCGTCGACGGACAAAACGACACCAGCAAACCGAGCAGCCCCCTCAGCAT
324> pLeuAsnGlyAlaValAspGlyGlnAsnAspThrSerGlnThrSerSerProSerAlaS

Msci

1712 CCAGCAACATAAGCGGAGGCATTTCTTCTTCGTGGCAAATGCCATAATCCACCTC
344►er Ser Asn IleSer GlyGlyIlePheLeuPhePheValAlaAsnAlaIleIleHisLeu

Saci

1771 TTCTGCTTCAGTTGAGGTGACACGTCTAGAGCTATTCTATAGTGTACCTAAATGCTAG
364 PheCysPheSer ***

BcII

1830 AGCTCGCTGATCAGCCTGACTGTGCCCTCTAGTTGCCAGCCATCTGTTGTTGCCCT

poly A

1889 CCCCCGTGCCCTCCTTGACCCCTGGAGGTCGCACCTCCACTGTCCCTTCTAATAAAAT

1948 GAGGAAATTGCATCGCATTGTCGTGAGTAGGTGTCAATTCTATTCTGGGGGGGTGGGGTGGG

2007 GCAGGACAGCAAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGGATGCGGGTGG

2066 GCTCTATGGCTTCTGAGGCAGAACCCAGTGGCGGTAAACGGTTATCCACAGAATC

Afghan

2125 AGGGGATAACGCCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTA

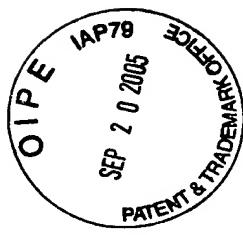
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Figure 1B (cont'd II)



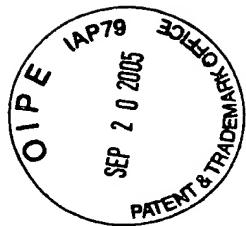
2243 AATCGACGCTCAAGTCAGAGGTGGCGAACCCGACAGGACTATAAGATAACCAGGCCTT
 2302 TCCCCCTGGAAGCTCCCTCGCGCTCTCTGTTCCGACCCCTGCCGCTTACCGGATACC
 2361 TGTCCGCCTTCTCCCTCGGGAGCGTGGCGCTTCTCATAGCTACGCTGTAGGTAT
 2420 CTCAGTTCGGTAGGTCGTCGCTCCAAGCTGGGCTGTGACGAACCCCCCGTTCA
 Col E1
 2479 GCCCGACCGCTGCGCTTATCCGTAACATACGTTGAGTCCAACCCGTAAGACACG
 2538 ACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGAGGC
 2597 GGTGCTACAGAGTTCTGAAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATT
 2656 TGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTTTGAT
 2715 CGGGCAAACAAACCAACCGCTGGTAGCGGTGGTTTTGTTGCAAGCAGCAGATTACG
 2774 CGCAGAAAAAAAGGATCTCAAGAAGATCCTTGATTTTCTACGGGTCTGACGCTCA
 BspHI
 2833 GTGGAACGAAAACTCAGTTAAGGGATTTGGTCATGAGATTATCAAAAGGATCTTCA
 2892 CCTAGATCTTTAAATTAAAATGAAGTTTAAATCAATCTAAAGTATATATGAGTAA
 EcoO109I
 Bsu36I AlwNI
 2951 CCTGAGGCTATGGCAGGGCTGCCGCCCCGACGTTGGCTGCAGGCCCTGGCCTTCACC
 3010 CGAACTTGGGGGTGGGGTGGGAAAAGGAAGAACGCGGGCGTATTGGCCCCAATGGG
 3069 GTCTCGGTGGGTATCGACAGAGTGCCAGCCTGGACCGAACCCCGTGTATGAACA
 TK poly A
 3128 AACGACCCAACACCGTGCCTTTATTCTGTTTATTGCCGTATAGCGCGGGTCC
 AvrII
 3187 TTCCGGTATTGTCCTCCGTGTTAGTTAGCCTCCCCCTAGGGTGGCGAAGAACT
 3246 CCAGCATGAGATCCCCGGCTGGAGGATCATCCAGCCGGCTCCGGAAAACGATTCCG
 3305 AAGCCCAACCTTCATAGAAGGCCGGTGGAAATCGAAATCTGTATGGCAGGTTGGG
 BstBI
 3364 CGTCGCTTGGTCGGTATTCGAACCCAGAGTCCCCTCAGAAGAACTCGTCAAGAAG
 2631 PhePheGluAspLeuLeu
 3423 GCGATAGAAGGCATGCGCTCGAATCGGGAGCGCGATACCGTAAAGCACGAGGAAGC
 2561 ArgTyrPheAlaIleArgGlnSerAspProAlaAlaIleGlyTyrLeuValLeuPheAr
 Sapi
 3482 GGTAGCCCATTGCCGCCAACGCTCTTCAGCAATATCACGGGTAGCCAACGCTATGTCC
 2361 gAspAlaTrpGlyLeuGluAlaIleAspArgThrAlaLeuAlaIleAspG
 RsrII
 3541 TGATAGCGGTCCGCCACACCCAGCCGCCACAGTCGATGAATCCAGAAAAGCGGCCATT
 2161 InTyrArgAspAlaValGlyLeuArgGlyCysAspIlePheGlySerPheArgGlyAsn
 3600 TTCCACCATGATATTGCCAAGCAGGCATGCCATGGTCACGAGATCCTGCCGT
 1971 GluValMetIleAsnProLeuCysAlaAspGlyHisThrValValLeuAspGlyAs
 3659 CGGGCATGCTGCCCTGAGCCTGGCGAACAGTTGGCTGGCGAGCCCCCTGATGCTCT
 1771 pProMetSerAlaLysLeuArgAlaPheLeuGluAlaProAlaLeuGlyGlnHisGluG
 BclI

Figure 1B (cont'd III)



3718 TGATCATCCTGATCGACAAGACCGGGCTTCCATCCGAGTACGTGCTCGCTCGATGCGATG
 1574 InAspAspGInAspValLeuGlyAlaGluMetArgThrAr gAlaAr gGl uIleArgHis
 3777 TTCGCTTGGTGGTCGAATGGCAGGTAGCCGGATCAAGCGTATGCAGCCGCCGATTG
 1384 LysAlaGlnHi sAspPheProCysThrAlaProAspLeuThrHisLeuArgArgMetAl
 3836 CATCAGCCATGATGGATACTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATCTGC
 1184 aAspAlaMetIleSerValLysGluAlaProAlaLeuHisSerSerLeuLeuAspGlnG
 Tth1111 Pvull
 3895 CCCGGCACCTCGCCCCAATAGCAGCCAGTCCCTCCCGCTTCAGTGACAACGTCGAGCAC
 984 lyProValGluGlyLeuLeuLeuTrpAspArgGlyAlaGluThrValValAspLeuVal
 Neo-R.
 FspI MscI
 3954 AGCTGCGCAAGGAACGCCGTCGTGGCCAGCCACGATAGCCGCGCTGCCCTCGTCTGCA
 794 AlaAlaCysProValGlyThrThrAlaLeuTrpSerLeuArgAlaAlaGluAspGlnLe
 NarI
 4013 GTTCATTAGGGCACCGGACAGGTGGTCTTGACAAAAAGAACCGGGGCCCTCGCCT
 594 GluAsnLeuAlaGlySerLeuAspThrLysValPheLeuValProArgGlyGlnAlaS
 4072 GACAGCCGGAACACGGCGGCATCAGAGCAGCCGATTGTCGTTGTGCCAGTCATAGCC
 394 LeuArgPheValAlaAlaAspSerCysGlyIleThrGlyGlnAlaTrpAspTyrGly
 4131 GAATAGCCTCTCACCAAGCGGCCGAGAACCTCGTGCATCCATCTGTTCAATCA
 204 PheLeuArgGluValTrpAlaAlaProSerGlyAlaHisLeuGlyAspGlyGluIleMe
 BsaBI ClaI AvrII
 4190 TGCAGAAACGATCCTCATCCTGTCCTTGATCGATCTTGCAAAAGCCTAGGCCTCAA
 4249 AAAGCCTCCTCACTACTTCTGGAATAGCTCAGAGGCCGAGGAGGCCCTGGCCTCTG
 —
 4308 CATAAAATAAAAAAAATTAGTCAGCCATGGGGCGGAGAATGGGGGAACTGGGCGGAGTT
 SV40 ori & Promotor NsiI
 4367 AGGGGCGGATGGGCGGAGTTAGGGCGGACTATGGTTGCTGACTAATTGAGATGCAT
 —
 SexAl
 4426 GCTTGCACTTCTGCCTGCTGGGAGCCTGGGACTTTCACACCTGGTTGCTGACT
 —
 NsiI
 4485 AATTGAGATGCATGCTTGCACTTCTGCCTGCTGGGAGCCTGGGACTTTCACAC
 —
 Pvull BsU36I
 4544 CCTAACTGACACACATTCCACAGCTGGTTCTTCCGCCTCAGGACTCTCCTTTCAA
 —
 4603 TAAATCAATCTAAAGTATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCA
 2874 ***TrpHisLysIleLe
 Eam1105I
 4662 GTGAGGCACCTATCTCAGCGATCTGCTATTCGTTCATCCATAGTTGCCGACTCCCC
 2814 uSerAlaGlyIleGluAlaAlaIleGlyAlaArgAsnArgGlyuAspMetThrAlaGlyAlaSerGlyT
 4721 GTCGTGTAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGTGCTGCAATGAT
 2614 hr Thr Tyr IleValValIleArgGlySerProLysGlyAspProGlyLeuAlaAlaIleIle
 4780 ACCGCGAGACCCACGCTCACCGGCTCCAGATTATCAGCAATAACCAGCCAGCCGGAA
 2424 GlyArgSerGlyArgGlyAlaGlySerLysAspAlaIlePheTrpGlyAlaProLe
 4839 GGGCCGAGCGCAGAAGTGGTCCTGCAACTTATCCGCCTCCATCCAGTCTATTAAATTGT
 2224 uAlaSerArgLeuLeuProGlyAlaValLysAspAlaGluMetTrpAspIleLeuGlyG
 FspI PspI 406I
 4898 TGCCGGAAAGCTAGAGTAAGTAGTTGCCAGTTAATAGTTGCGCAACGTTGTCAT
 2024 InArgSerAlaLeuThrLeuLeuGlyAlaGlyThrLeuLeuLysArgLeuThrThrAlaMet
 4957 TGCTACAGGCATGTGGTGTACGCTCGTGTGTTGATGGCTTCAATTAGCTCCGGTT
 1834 AlaValProMetThrThrAspArgGlyuAspAsnProIleAlaGlyuAsnLeuGlyuProGly

Figure 1B (cont'd IV)



5016 CCCAACGATCAAGGCCAGTTACATGATCCCCCATGTTGTGCAAAAAAGCGGGTTAGCTC
 163TrpArgGAspLeArgGThrValHisAspGlyMetAsnHisLePheAlaThrLeuGluL
 Pvul
 5075 TTGGTCTCTCGATCGTTGCAGAAGTAAGTGGCCGCAGTGTTATCACTCATGGTTAT
 143ysProGlyGlyIleThrThrLeuLeuAsnAlaAlaThrAsnAspSerMetThrIle
 bla
 S134 GGCAGCACTGCATAATTCTCTTACTGTCATGCCATCCGAAGATGCTTTCTGTGACTG
 124AlaAlaSerCysLeuGluWArgValThrMetGlyAspThrLeuHisLysGluThrValPr
 Scal
 S193 GTGAGTACTCAACCAAGTCATTCTGAGAATAGTGATGCGGCCACCGAGTTGCTCTTGC
 104oserTyrGluValLeuAspAsnGlnSerTyrHisIleEArgGlyLeuGlnGluIng
 5252 CGGGCGTCAATACGGGATAACCGGCCCACATAGCAGAACTTAAAGTGCTCATCAT
 84IlyAlaAspIleEArgSerLeuValAlaGlyCysLeuLeuValLysPheThrSerMettMet
 Psp1406I
 XmnI
 S311 TGGAAAACGTTCTCGGGGGGAAACTCTCAAGGATCTTACCGCTGTTGAGATCCAGTT
 65ProPheArgGluGluProArgPheSerGluLeuIleLysGlySerAsnLeuAspLeuGI
 ApaL
 S370 CGATGTAACCCACTCGTCACCCAACACTGATCTTCAGCATCTTACTTCACCCAGCGTT
 45IleTyrGlyValArgAlaGlyLeuGlnAspGluAlaAspLysValLysValLeuThrG
 S429 TCTGGGTGAGCAAAACGGAAGCAAATGCGCAAAAGGGAAAGGGCGACG
 25IleProHisSalaApheValProLeuCysPheAlaAlaAphePheProlIleLeuAlaValArg
 SspI
 S5488 GAAATGTTGAATATACTCATACTCTTCTTTCAAATTATTGAAGCATTTATCAGGGTT
 6PheHisSGlIleSerMet
 BspHI
 S5547 ATTGTCTCATGAGCGGATACATATTGAATGTATTGAAAAAAACAAATAGGGTT
 5606 CGCGCCACATTCCCCGAAAAGTGCCACTGACGCGCCCTGTAGGGCGCATTAGGGC

5665 GGCGGGTGTGGTGGTTACGCGCAGCGTACCGCTACACTGCCAGGCCCTAGCGCCCC
 Stem loop A

5724 CTCCCTTCGCTTCTTCCCTTCTGCCACGTTGCCGGCTTCCCCGTCAAGCT

5783 CTAATCGGGGCTCCCTTAGGGTCCGATTAGTGTCTTACGGCACCTGACCCCAA
 f1 IR Stem loop B

5842 AAAACTTGATTAGGGTATGGTTACGTAGTGGCCATGCCCTGATAGACGGTTTC
 DraiII Stem loop C Primer-RNA

Start Transcription
 VS-Synthese Nicking site Stem loop D Stem loop E

5901 GCCCTTGACGTTGGAGTCCACGTTCTTAATAGTGGACTCTTGTCCAACCTGGAACA

5960 ACACTCAACCTATCTGGTCTATTCTTGTATTAAGGGATTTGCCGATTCGGC

6019 CTATTGGTAAAAAATGAGCTATTAAACAAAATTAAACGCGAATTAAACAAAATAT
 Apol Apol SspI

6078 TAACGCTTACAATTAC

Figure 1B (cont'd V)

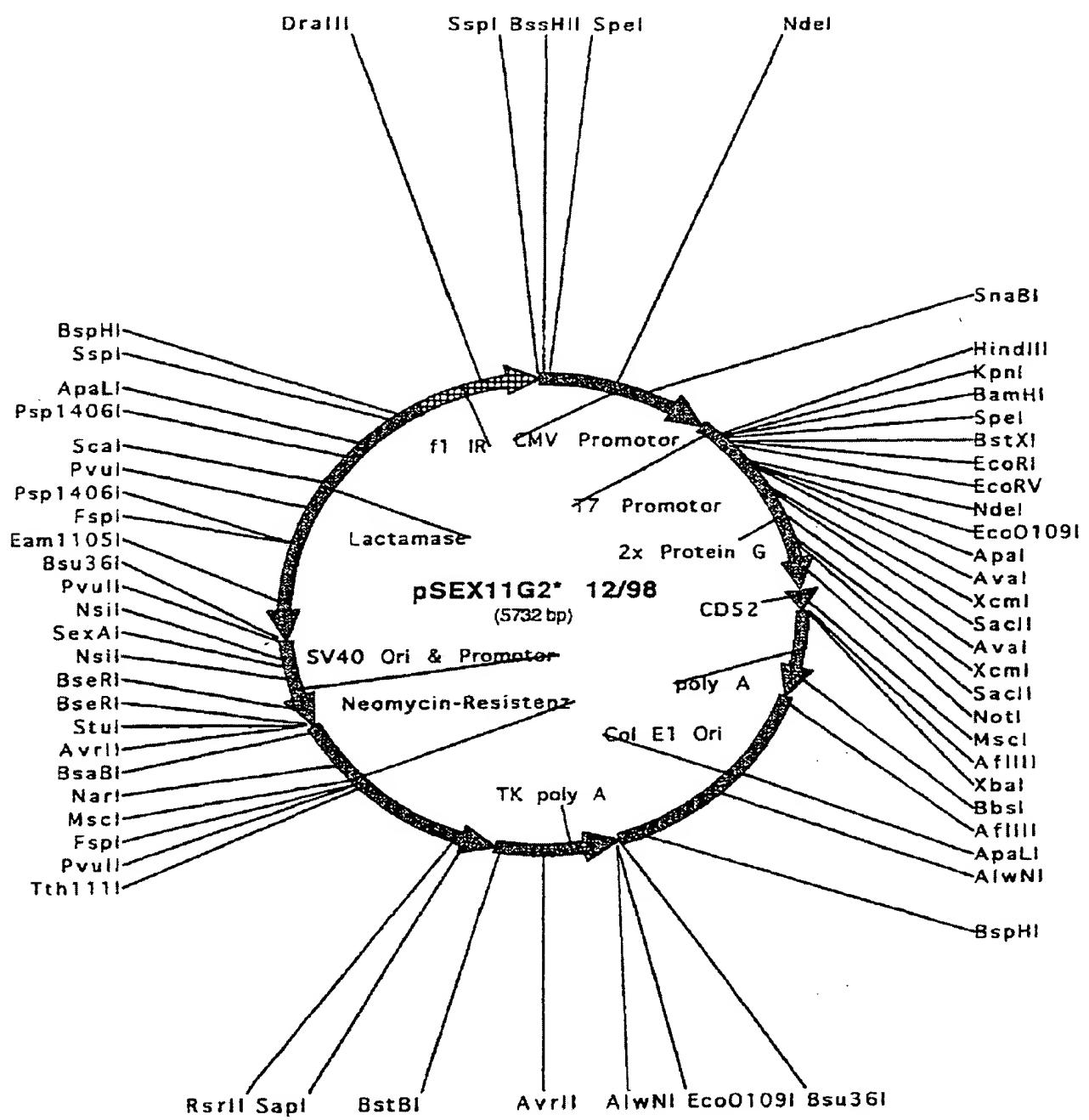
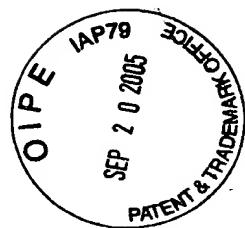


Figure 2 A

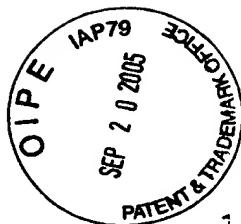
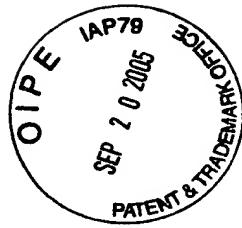


Figure 2B (cont'd I)



61> yGl uThr Thr Thr Gl uAl aVal AspAl aAl aThr Al aGl uLys Val PheLys Gl
 973 ATACGCTAATGACAACGGGGTCGACGGCGAGTGGACTTACGACGACGCCACCAA
 79> nTyrAl aAsnAsnAsnGl yVal AspGl yGl uTr pThr Tyr AspAspAl aThr Ly

Aval

2x Protein G

1027 GACCTTCACCGTGACCGAGAAGCCCGAGGTGATCGATGCCAGCGAGCTGACCCC
 97> sThr PheThr Val Thr Gl uLys ProGl uVal l eAspAl aSer Gl uLeuThr Pr

1081 CGCCGTGACCACCTACAAGCTAGTGTCAACGGCAAGACCCCTGAAGGGCGAGAC
 115> oAl aVal Thr Thr Tyr LysLeuVal l eAsnGl yLysThr LeuLysGl yGl uTh

XcmI

SacII

1135 CACCACCGAGGCCGTGGACGCCCGACCCGGAGAAGGTGTTCAAACAATAACGC
 133> rThr Thr Gl uAl aVal AspAl aAl aThr Al aGl uLys Val PheLys Gl nTyrAl
 1189 TAATGACAACGGGGTCGACGGCGAGTGGACTTACGACGACGCCACCAAGACCTT
 151> aAsnAspAsnGl yVal AspGl yGl uTr pThr Tyr AspAspAl aThr Lys Thr Ph

NotI

1243 CACCGTGACCGAGGCCGCCAGAACAAAAACTCATCTCAGAACAGGATCTGAA
 169> eThr Val Thr Gl uAl aAl aGl uGl nLysLeu l eSer Gl uGl uAspLeuAs

1297 TGGGCCGTGACGGACAAACGACACCAGCAAACAGCAGCCCCCTAGCATC
 187> nGl yAl aVal AspGl yGl nAsnAspThr Ser Gl nThr Ser Ser ProSerAl aSe

CDS2

MscI

1351 CAGCAACATAAGCGGAGGCATTTCTTTCTTCGTGGCCAATGCCATAATCCA
 205> rSerAsn l eSer Gl yGl l ePheLeuPhePheVal Al aAsnAl a l eHi

AfIIIXbaI

1405 CCTCTTCTGCTTCAGTTGAGGTGACACGCTAGAGCTATTCTATAGTGTACCT
 223> sLeuPheCysPheSer ***

1459 AAATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCCTTAGTTGCCAGCCATC

1513 TGTTGTTGCCCTCCCCGTGCCTTCCTGACCTGGAAAGGTGCCACTCCAC

poly A

1567 TGTCTTCTTAATAAAATGAGGAAATTGCATCGATTGTCTGAGTAGGTGTCA

BbsI

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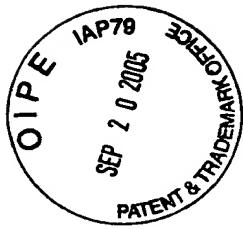
1729 AACCACTGGCGGTAAACGGTTATCCACAGAATCAGGGATAACGCAGGAAAGA
 AfIIII

1783 ACATGTGAGAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAGGCCGTTGC

1837 TGGCGTTTCCATAGGCTCGCCCCCTGACGAGCATCACAAAATCGACGCT

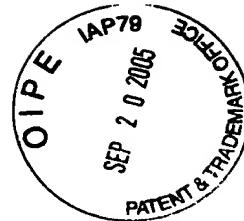
1891 CAAGTCAGAGGTGGCGAAACCGACAGGACTATAAGATAACCAGGCCTTCCCC

Figure 2B (cont'd II)



1945 CTGGAAGCTCCCTCGCGCTCTCCTGTTCCGACCCCTGCCGCTTACCGGATAACC
 1999 TGTCCGCCTTCTCCCTCGGGAAAGCGTGGCGTTCTCATAGCTCACGCTGTA
 2053 GGTATCTCAGTCGGTAGGTCGTCGCTCCAAGCTGGCTGTGCAACGAAC
 2107 CCCCCGTTCAGCCCCGACCGCTGCCCTTATCCGGTAACATCGTCTTGACTCCA
 2161 ACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTA
 2215 GCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTGAAGTGGTGGCCTAAGT
 2269 ACGGCTACACTAGAAGGACAGTATTGGTATCTGCCTCTGCTGAAGCCAGTTA
 2323 CCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTA
 2377 GCGGTGGTTTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTC
 2431 AAGAAGATCCTTGATCTTCTACGGGTCTGACGCTCAGTGGAACGAAACT
 2485 CACGTTAAGGGATTTGGTATGAGATTATCAAAAAGGATCTCACCTAGATCC
 2539 TTTTAAATTAAAAATGAAGTTAAATCAATCTAAAGTATATATGAGTAACCTG
 2593 AGGCTATGGCAGGGCTGCCGCCCGACGTTGGCTGCAGCCCTGGCCTTCAC
 2647 CCGAACCTGGGGGTGGGTGGGAAAGGAAGAAACGCGGGCGTATTGGCCCC
 2701 AATGGGTCTCGTGGGTATCGACAGAGTGCCAGCCCTGGACCGAACCCCGC
 2755 TK poly A
GTTTATGAACAAACGACCCAAACACCGTGCCTTTATTCTGTCTTTATTGCCG
 2809 TCATAGCGGGTTCTCCGGTATTGTCTCTTCCGTGTTCAAGTTCAGCTCC
 2863 AvrII
CCCTAGGGTGGCGAAGAACTCCAGCATGAGATCCCCGCGTGGAGGATCATCC
 2917 AGCCGGCGTCCCGAAAACGATTCCGAAGCCAACCTTCATAGAAGGCGGCGG
 2971 BstBI
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 3025 ACCCCAGAGTCCCCTCAGAAGAACTCGTCAAGAAGGCGATAGAAGGCGATGCG
 3079 2631 •••PhePheGl uAspLeuLeuArgTyrPheAlaAlaLeuValLeuPheArgAspAlaTrpGl u
 2504 GlnSerAspProAlaAlaLeuArgTyrLeuValLeuPheArgAspAlaTrpGl u
 3101 Sapi
 3151 RsrII

Figure 2B (cont'd III)



3133 GCCGCCAAGCTCTCAGCAATATCACGGGTAGCCAACGCTATGTCCTGATAGCG
 2324 GluGlyLeuGluGluAlaAlaAspArgThrAlaLeuAlaAlaAspGlnTyrArg
 3187 GTCCGCCACACCCAGCCGGCACAGTCGATGAATCCAGAAAAGCGGCCATTTC
 2144 AspAlaValGlyLeuArgGlyCysAspIlePheGlySerPheArgGlyAsnGlu
 3241 CACCATGATATTGCGAACAGCAGGCATGCCATGGGTACAGCAGAGATCCTCGCC
 1964 ValMetIleAsnProLeuCysAlaAspGlyHisThrValValLeuAspGluGly
 3295 GTCGGGCATGCTCGCTTGAGGCTGGCGAACAGTTGGCTGGCGAGCCCCCTG
 1784 AspProMetSerAlaLysLeuArgAlaPheLeuGluAlaProAlaLeuGlyGln
 3349 ATGCTTTGATCATCCTGATCGACAAGACCGGCTTCATCCGAGTACGTGCTCG
 1604 HisGluGlnAspAspGlnAspValLeuGlyAlaGluMetArgThrArgAlaArg
 3403 CTCGATGCGATGTTGCTTGGTGAATGGGAGGTAGCCGGATCAAGCGT
 1424 GlyIleArgHisLysAlaGlyGlnHisAspPheProCysThrAlaProAspLeuThr
 3457 ATGCAGCCGCCGCATTGCATCAGCCATGATGGATACTTCTCGGCAGGAGCAAG
 1244 HisLeuArgArgMetAlaAspAlaMetIleSerValLysGluAlaProAlaLeu
 3511 GTGAGATGACAGGAGATCCTGCCCGGACTTCGCCAATAGCAGCCAGTCCCT
 1064 HisSerSerLeuLeuAspGlnGlyProValGluGlyLeuLeuTrpAspArg

FspI

Neo-R.

Tth111I Pvull

MscI

3565 TCCCGCTTCAGTGACAACGTCGAGCACAGCTGCCAAGGAAACGCCGTCGGC
 884 GlyAlaGluThrValValAspLeuValAlaAlaCysProValGlyThrThrAla
 3619 CAGCCACGATAGCCGCCTGCTCGTCTGAGTTCAATTAGGGCACCGGACAG
 704 LeuTrpSerLeuArgAlaAlaGluAspGlnLeuGluAsnLeuAlaGlySerLeu

NarI

3673 GTCGGTCTTGACAAAAAGAACCGGGGCCCTGCGCTGACAGCCGGAACACGGC
 524 AspThrLysValPheLeuValProArgGlyGlnAlaSerLeuArgPheValAla
 3727 GGCATCAGAGCAGCCGATTGCTGTTGCCCAGTCATGCCGAATAGCCTCTC
 344 AlaAspSerCysGlyIleThrGlyAlaTrpAspTyrGlyPheLeuArgGlu
 3781 CACCCAAGCGGCCGGAGAACCTGCGTGCATCCATCTTGTCAATCATCGGAAA
 164 ValTrpAlaAlaProSerGlyAlaHisLeuGlyAspGlnGlyIleMet

StuI

AvrII

3835 CGATCCTCATCCTGCTCTTGATCGATTTGCAAAAGCCTAGGCCTCCAAAAA

BseRI

BseRI

3889 AGCCT CCTCACTACTTCTGGATAGCTCAGAGGCCGAGGAGGGCGGCCTGGCCT

3943 CTGCATAAATAAAAAAAATTAGTCAGCCATGGGGGGAGAATGGCGGAAGTGG

SV40 ori & Promotor

3997 GCGGAGTTAGGGCGGGATGGCGGAGTTAGGGCGGACTATGGTTGCTGACT

NsiI

4051 AATTGAGATGCATGCTTGCATACTTCTGCCTGCTGGGAGCCTGGGACTTTC

SexAI

NsiI

4105 CACACCTGGTTGCTGACTAATTGAGATGCATGCTTGCATACTTCTGCCTGCTG

Pvull

4159 GGGAGCCTGGGACTTCCACACCTAACTGACACACATTCCACAGCTGGTCT

Bsu36I

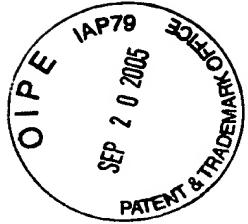
4213 TTCCGCCCTCAGGACTCTTCTTTCAATAATCAATCTAAAGTATATGAGT

4267 AAACCTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTAGCGA

2874 ***TrpHisLysIleLeuSerAlaGlyIleGluAlaI

Eam1105I

Figure 2B (cont'd IV)



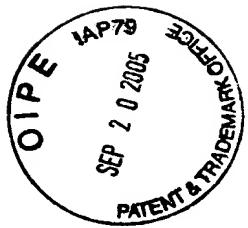
4321 TCTGTCTATTCGTTATCCATAGTGCCTGACTCCCCGTCGTAGATAACTA
 2741 eGI nAr gAsnAr gGI uAspMetThrAl aGI nSer GI yThr Thr Tyr I I eVal Va
 4375 CGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATAACCGCAGAGACC
 2561 I I I eArgSer ProLysGI yAspProGI yLeuAl aAl aI I eGI yArgSer GI
 4429 CACGCTCACCGGCTCCAGATTATCAGCAATAAACAGGCCAGCCGGAAAGGGCCG
 2381 yArgGI uGI yAl aGI ySerLysAspAl aI I ePheTr pGI yAl aProLeuAl aSe
 4483 AGCGCAGAAGTGGTCTGCAACTTATCCGCCATCCAGTCTATTATTGTT
 2201 rArgLeuLeuProGI yAl aVal LysAspAl aGI uMetTr pAspI I eLeuGI nGI
 FspI PspI 14061
 4537 GCCGGGAAGCTAGAGTAAGTAGTTGCCAGTTAATAGTTGCGCAACGTTGTTG
 2021 nArgSerAl aLeuThrLeuLeuGI uGI yThrLeuLeuLysArgLeuThrThrAl
 4591 CCATTGCTACAGGCATCGTGGTGTACGCTCGTCGTTGGTATGGCTTCATTCA
 1841 aMetAl aVal ProMetThrThrAspArgGI uAspAsnProI I eAl aGI uAsnLe
 4645 GCTCCGGTTCCAACGATCAAGGCAGTTACATGATCCCCATGTTGTGCAAAA
 1661 uGI uProGI uTr pArgAspLeuArgThrVal HisAspGI yMetAsnHisLeuPh
 Pvul
 4699 AAGCGGTTAGCTCCTCGGTCTCCGATCGTGTAGAAGTAAGTTGGCCGCAG
 1481 eAl aThr LeuGI uLysProGI yGI y I I eThr Thr LeuLeuLeuAsnAl aAl aTh
 4753 TGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTTACTGTCATGCCAT
 1301 rAsnAspSerMetThr I I eAl aAl aSerCysLeuGI uArgVal ThrMetGI yAs
 bla Scal
 4807 CCGTAAGATGCTTTCTGTGACTGGTAGTACTCAACCAAGTCATTCTGAGAAT
 1121 pThrLeuHisLysGI uThr Val ProSerTyrGI uVal LeuAspAsnGI nSer Ty
 4861 AGTGTATGCGGCACCGAGTTGCTCTGCCGGCGTCAATACGGGATAATACCG
 941 rHis I I eArgArgGI yLeuGI nGI uGI nGI yAl aAspI I eArgSerLeuValAl
 PspI 14061
 4915 CGCCACATAGCAGAACTTAAAGTGCCTCATCATTGGAAAACGTTCTCGGGGC
 761 aGI yCysLeuLeuVal LysPheThr SerMetMetProPheArgGI uGI uProAr
 4969 GAAAACCTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTGATGTAACCCACTC
 581 gPheSer GI uLeuI I eLysGI ySerAsnLeuAspLeuGI uI I eTyr GI yValAr
 ApaLI
 5023 GTGCACCCAAGTCTCAGCATCTTACTTCAACCAGCGTTCTGGGTGAG
 401 gAl aGI yLeuGI nAspGI uAl aAspLysVal LysVal LeuThr GI uProGI sAI
 5077 CAAAAACAGGAAGGCAAAATGCCGAAAAAAGGGATAAGGGCGACACGGAAAT
 221 aPheVal ProLeuCysPheAl aAl aPhePheProI I eLeuAl aVal ArgPheHi
 SspI
 5131 GTTGAATACTCATACTCTTCTTTCAATATTATTGAAGCATTATCAGGGTT
 41 sGI nI I eSerMet
 BspHI
 5185 ATTGTCTCATGAGCGGATAACATATTGAATGTATTAGAAAATAAACAAATAG
 5239 GGGTTCCGCGCACATTCCCGAAAAGTGCACCTGACGCGCCCTGTAGCGGCG

5293 CATTAAAGCGCGGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCA Stem loop A

5347 GCGCCCTAGCGCCCGCTCCCTTTCGCTTCTTCCCTTCTGGCCACGTTCG

5401 CCGGCTTCCCCGTCAAGCTAAATCGGGGGCTCCCTTAGGGTTCCGATTAA f1 IR Stem loop B

Figure 2B (cont'd V)



5455 GTGCTTACGGCACCTCGACCCAAAAACTGATTAGGGTATGGTCACGTA DraIII

5509 GTGGGCCATGCCCTGATAGACGGTTTGCCTTGACGTTGGAGTCCACGT Start Transcription
VS-Synthese

5563 TCTTAATAGGACTTTGTTCAAACGGAAACACTCAACCTATCTCGG Nicking site Stem loop D Stem loop E

5617 TCTATTCTTTGATTTATAAGGGATTTGCCGATTCGGCCTATTGGTAAAAA

5671 ATGAGCTGATTTAACAAAAATTAAACGCGAATTAAACAAATATTAACGCTTA SspI

5725 CAATTAC

Figure 2B (cont'd VI)

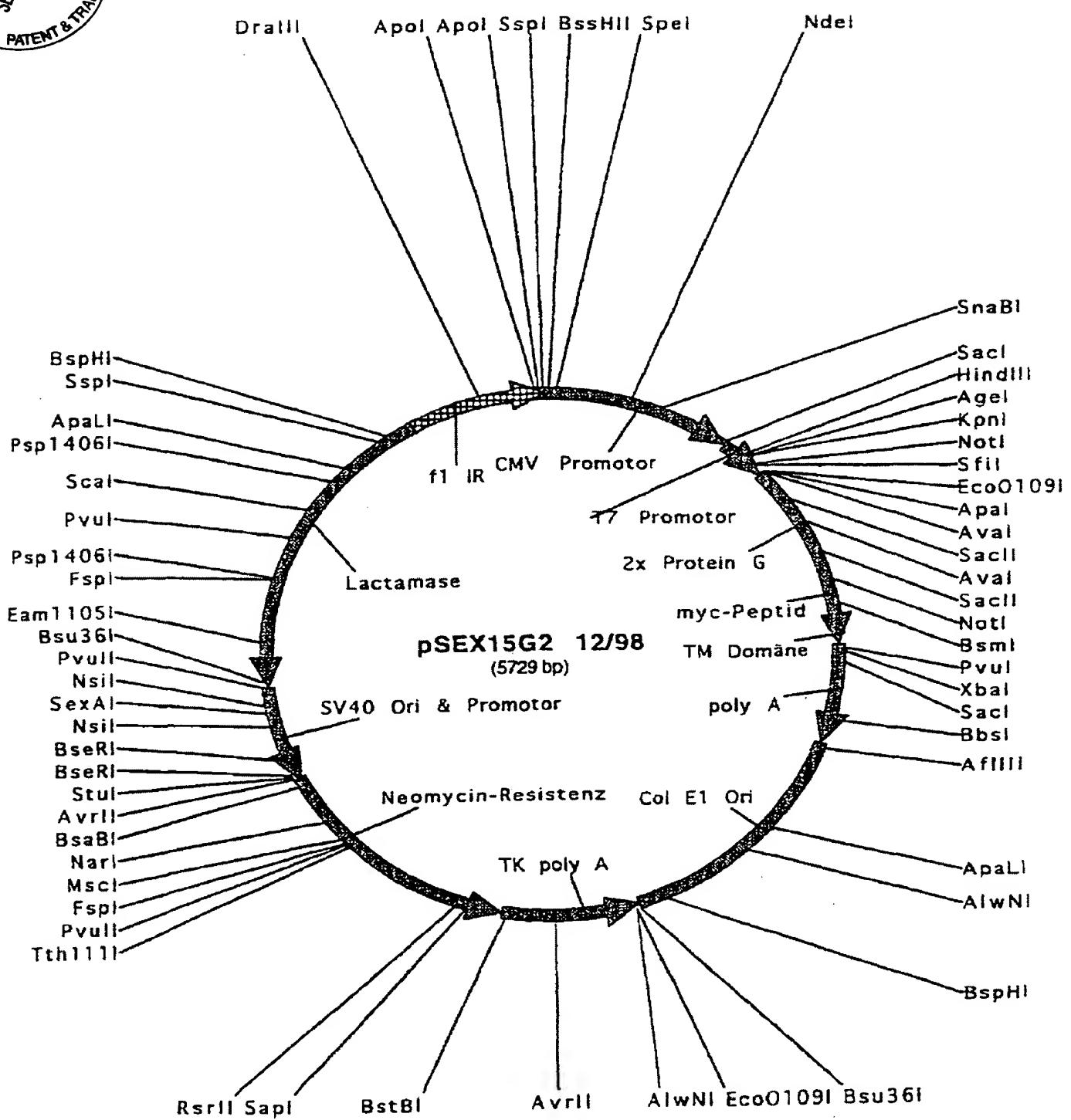
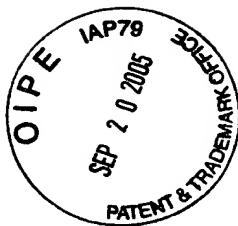
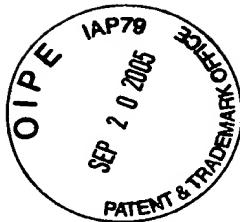


Figure 3 A



Spel

1 BssHII GCGCGC GTT GAC ATT GATT ATT GACT AGT ATT AAT TAG TAAT CAATT AC GGGGTCA

57 TTAGTT CATAG CCC ATAT ATGGAG TTCC CGCTT ACATA ACTT AC GGTA ATGGCC

113 GCCTGGCTGACCGCCC AACGACCCCCGCCATTGACGTCAATAATGACGTATGTC

169 CCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGACTATTTACGG

NdeI

225 TAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCTAT

CMV promoter

281 TGACGTCAATGACGGTAAATGGCCGCCTGGCATTATGCCAGTACATGACCTTAT

SnaBI

337 GGGACTTT CCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTG

393 ATGCCGTTTGGCAGTACATCAATGGCGTGGATAGCGGTTGACTCACGGGATT

449 TCCAAGTCTCCACCCATTGACGTCAATGGGAGTTGTTGGCACCAAATCAAC

505 GGGACTTTCAAATGTCGTAACAACCTCGCCCCATTGACGCAAATGGCGGTAGG

SacI

561 CGTGTACGGTGGAGGTCTATATAAGCAGAGCTCTGGCTAACTAGAGAACCCAC

T7 promotor HindIII KpnI

617 TGCTTACTGGCTTATCGAAATTAAATACGACTCACTATAGGGAGACCCAAAGCTTGGT

SfiI

NotI

673 ACCGGTGGATGGCACCCCTGCATGCTGCTCCTGCTGTTGGCGGGCCCTGGCCCC
1> MetAlaProCysMetLeuLeuLeuLeuAlaAlaAlaAlaLeuAlaPr

ApaI

EcoO109I Aval

729 GACTCAGACCCGGCGGGGGCCAAAAGCCCGAGGTGATCGATGCCAGCGAGCTGA
16> oThr Glu Thr ArgAlaGlyAlaGluLysProGluValIleAspAlaSer GluLeuT

785 CCCCCGCGT GACCACCTACAAGCTAGTGATCAACGGCAAGACCTGAAGGGCGAG
35> hr ProAlaValThr Tyr LysLeuValIleAsnGlyLysThr LeuLysGlyGlu

SacII

841 ACCACCACCGAGGCCGTGGACGCCACCGCGGAGAAGGTGTTCAAACAATACGC
54> Thr Thr Thr GluAlaValAspAlaAlaThrAlaGluLysValPheLysGlnTyrAl

897 TAATGACAACGGGTCGACGGCAGTGACTTACGACGACGCCACCAAGACCTCA
72> aAsnAspAsnGlyValAspGlyGluTrpThrTyrAspAspAlaThrLysThrPheT

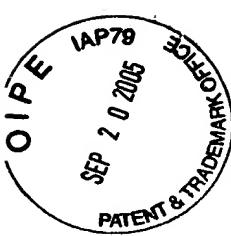
Aval

2x Protein G

953 CCGTGACCGAGAAGCCCGAGGTGATCGATGCCAGCGAGCTGACCCCGCCGTGACC
91> hr ValThr GluLysProGluValIleAspAlaSer GluLeuThrProAlaValThr

1009 ACCTACAAGCTAGTGATCAACGGCAAGACCTGAAGGGCGAGACCACCGAGGC
110> Thr Tyr LysLeuValIleAsnGlyLysThr LeuLysGlyGluThr Thr GluAl

Figure 3B (cont'd I)



SacI

1065 CGTGGACGCCGCCACCGCGGAGAAGGTGTTCAAACAATACGCTAATGACAACGGGG
128► aValAspAlaAlaThrAlaGluLysValPheLysGlnTyrAlaAsnAspAsnGlyV
NotI

1121 TCGACGGCGAGTGGACTTACGACGCCACCAAGACCTTCACCGTACCGAGGGCG
147► aIAspGlyGluTrpThrTyrAspAspAlaThrLysThrPheThrValThrGluAla
myc

1177 GCCGCAGAACAAAAACTCATCTCAGAAGAGGGATCTGAATGGGCCGTCACGAACA
166► AlaAlaGluGlnLysLeuIleSerGluGluAspLeuAsnGlyAlaValAspGluVal

BsmI

1233 AAAACTCATCTCAGAAGAGGGATCTGAATGCTGTGGCCAGGACACGCAGGAGGTCA
184► nLysLeuIleSerGluGluAspLeuAsnAlaValGlyGlnAspThrGlnGluValI

1289 TCGTGGTGCCACACTCCTGCCCTTAAGGTGGTGGTATCTCAGCCATCCTGGCC
203► IeValValProHisSerLeuProPheLysValValValIleSerAlaIleLeuAla

TM domain

1345 CTGGTGGTGCTACCACATCTCCCTTATCATCCTCATCATGCTTGGCAGAACGAA
222► LeuValValLeuThrIleIleSerLeuIleIleLeuIleMetLeuTrpGlnLysLy

PvuI XbaI

1401 GCCACGTTCGTCGGCCGATCGAGAACATCCATCTAGAGCTATTCTATACTGTCACCTA
240► sProArgSerSerAlaAspArgGluSerIle... ← →

SacI

1457 AATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTAGTTGCCAGCCATCTGT
→ ←

poly A

1513 TTTTGCCCCCTCCCCCGTGCCTCCTGACCCCTGGAGGTGCCACTCCACTGTCC

1569 TTTCCTAATAAAATGAGGAAATTGCATCGCATTGCTGAGTAGGTGTCAATTCTATT

BbsI

1625 CTGGGGGGTGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGAAAGAACATAGCAG

1681 GCATGCTGGGATGCGTGGCTCTATGGCTCTGAGGCGAAAGAACCGAGTGGCG

AfIII

1737 GTAATACGTTATCCACAGAACATCAGGGATAACGCAGGAAAGAACATGTGAGCAA
1793 AGGCCAGAAAAGGCCAGGAACCGTAAAAGGCCGCTGGCTGGCGTTTCCATA

1849 GGCTCCGCCCCCTGACGAGCATCACAAATCGACGCTCAAGTCAGAGGTGGCGA

1905 AACCCGACAGGACTATAAGATACCAAGCGTTCCCCCTGGAAAGCTCCCTCGTGC

1961 CTCTCCTGTTCCGACCCCTGCCGCTTACCGGATACCTGTCGCCCTTCTCCCTCGG

Figure 3B (cont'd II)

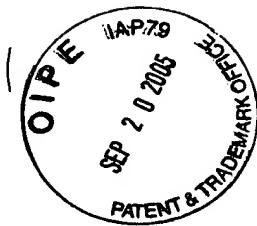
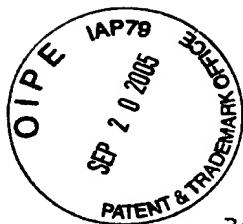


Figure 3B (cont'd III)



BseRI
3921 GAGGAGGCCTCGGCCTGCATAAATAAAAAATTAGTCAGCCATGGGCCGG

SV40 ori & Promotor
3977 AGAATGGCGGAACCTGGCGGAGTTAGGGCGGATGGCGGAGTTAGGGCGGAG

Nsil
4033 CTATGGTTGCTGACTAATTGAGATGCATGCTTGATACTTCTGCCTGCTGGGAG

SexAI Nsil
4089 CCTGGGACTTTCCACACCTGGTTGCTGACTAATTGAGATGCATGCTTTGCATACT

PvuII
4145 TCTGCCTGCTGGGAGCCTGGGACTTCCACACCCTAAC TGACACACATTCCACA

Bsu3G1
4201 GCTGGTTCTTCGCGCTCAGGACTCTCCTTTCAATAAAI CAATCTAAAGTATA
4257 TATGAGTAAACTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTC
2874 ***TrpHisLysIleLeuSerAlaGlyIleGlu

Eam1105I
3361 CTGATCGACAAGACCGGCTTCCATCCGAGTACGTGCTCGATGCGATGTTCG
155 GluAspValLeuGlyAlaGluMetArgThrArgAlaArgGluIleArgHisLysAl
3417 CTTGGTGGTCGAATGGCAGGTAGCCGGATCAAGCGTATGCAGCCGCCATTGCA
136 AlaGlnHisAspPheProCysThrAlaProAspLeuThrHisLeuArgArgMetAlaa
3473 TCAGCCATGATGGATACTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATCTG
117 AspAlaMetIleSerValLysGluAlaProAlaLeuHisSerSerLeuLeuAspGln

Tth111I
3529 CCCCCGGCACTTGGCCAATAGCAGCCAGTCCCTCCCGCTTCAGTGACAACGTCGA
99 GlyProValGluGlyLeuLeuLeuTrpAspArgGlyAlaGluThrValValAspLe
Neo-R.

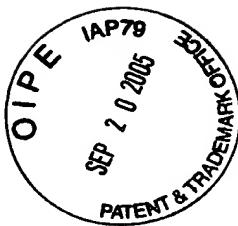
PvuII/FspI MscI
3585 GCACAGCTGCGCAAGGAACGCCGTCGTGGCCAGCCACGATAGCCGCGCTGCCTCG
80 ValAlaAlaCysProValGlyThrThrAlaLeuTrpSerLeuArgAlaAlaGlu

NarI
3641 TCTTGAGTTCATCAGGGCACCGGACAGGTGGTCTTGACAAAAAGAACCGGGCG
61 AspGluLeuGluAsnLeuAlaGlySerLeuAspThrLysValPheLeuValProArg
3697 CCCCTGCGCTGACAGCCGGAACACGGCGGCATCAGAGCAGCCGATTGTCTGTTGTG
43 GlnGlyAlaSerLeuArgPheValAlaAlaAspSerCysGlyIleThrGlnGlnAla
3753 CCCAGTCATAGCCGAATAGCCTCTCCACCAAGCGGCCGGAGAACCTGCGTGCAAT
24 TrpAspTyrGlyPheLeuArgGluValTrpAlaAlaProSerGlyAlaHisLeuG

BsaBI
3809 CCATCTTGTCAATCATGCAGAACGATCCTCATCCTGTCTTGTATCGATCTTGC
51 AspGluGluIleMet

StuI
AvrII BseRI
3865 AAAAGCCTAGGCCTCCAAAAAGCCTCCTCACTACTCTGGATAGCTCAGAGGCC

Figure 3B (cont'd IV)



4313 AGCGATCTGCTATTCGTTATCCATAGTTGCCACTCCCCGTGTAGATAA
 2761 Al aI eGI nAr gAsnAr gGI uAspMetThrAl aGI nSer GI yThr Thr Tyr I I eVa
 4369 CTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATAACCGCGAGAC
 2571 Val I I eAr gSer ProLysGI yAspProGI yLeuAl aAl aI eGI yArgSer G
 4425 CCACGCTCACCGGCTCAGATTATCAGCAATAAACCCAGCCAGCCGAAGGGCGA
 2381 yArgGI uGI yAl aGI ySer LysAspAl aI ePheTr pGI yAl aProLeuAl aSer
 4481 GCGCAGAAGTGGTCTGCAACTTATCCGCCTCCATCCAGTCTATTATTGTTGCC
 2201 ArgLeuLeuProGI yAl aVal LysAspAl aGI uMetTr pAspI I eLeuGI nGI nAr
 FspI Psp1406I
 4537 GGGAGCTAGAGTAGTTGCCAGTTAATAGTTGCGCAACGTTGTTGCCATT
 2011 gSerAl aLeuThr LeuLeuGI uGI yThr LeuLeuLysArgLeuThr ThrAl aMetA
 4593 GCTACAGGCATCGTGGTGTACGCTCGTGTGGTATGGCTTCATTAGCTCCGG
 1821 I aVal ProMetThr ThrAspArgGI uAspAsnProI I eAl aGI uAsnLeuGI uPro
 4649 TTCCCAACGATCAAGGCAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTA
 1641 GI uTr pAr gAspLeuArgThr Val HisAspGI yMetAsnHisLeuPheAl aThr Le
 Pvul
 4705 GCTCTTCGGTCCTCCGATCGTTGTCAGAAGTAAGTTGGCCGAGTGTATCACTC
 1451 uGI uLysProGI yGly I I eThr Thr LeuLeuLeuAsnAl aAl aThr AsnAspSerM
 bla
 4761 ATGGTTATGGCAGCACTGCATAATTCTTTACTGTCATGCCATCCGTAAAGATGCTT
 1261 etThr I I eAl aAl aSer CysLeuGI uArgVal Thr MetGI yAspThr LeuHi sLys
 Scal
 4817 TTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAATAGTGTATGCCGAC
 1081 GluThr Val ProSer Tyr GluVal LeuAspAsnGI nSer Tyr HisIleArgArgGI
 4873 CGAGTTGCTCTTGCCTGGCGTCAATACGGGATAATACCGCGCCACATAGCAGAACT
 891 yLeuGI nGI uGI nGlyAl aAspI I eArgSer LeuVal Al aGI yCysLeuLeuVal L
 Psp1406I
 4929 TTAAAAGTGCCTCATGGAAAACGTTCTGGGGCGAAACTCTCAAGGATCTT
 701 ysPheThr Ser MetMetProPheArgGI uGI uProArgPheSer GI uLeuI I eLys
 ApaLI
 4985 ACCGCTGTTGAGATCCAGTTGATGTAACCCACTCGTCACCCAACTGATCTTCAG
 521 GI ySerAsnLeuAspLeuGI uI I eTyr GI yVal ArgAl aGI yLeuGI nAspGI uAl
 5041 CATCTTTACTTCAACCAGCGTTCTGGGTGAGCAAAACAGGAAGGCAAATGCC
 331 aAspLysVal LysVal LeuThr GluProHisAl aPheVal ProLeuCysPheAl aA
 5097 GCAAAAGGGATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTT
 141 I aPhePheProI I eLeuAl aVal ArgPheHisGI nI I eSerMet
 SspI
 5153 TCAATATTATTGAAGCATTATCAGGGTTATTGTCATGAGCGGATACATATTG
 5209 AATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTCCCCGAAAGTG
 5265 CCACCTGACGCCCTGTAGCGCGCATTAGCGCGGGGTGTGGTTACGCG

Stem loop A

5321 CAGCGTGACCGCTACACTTGCCAGGCCCTAGCGCCCGTCTTTCGCTTTCTCC

 5377 CTTCTTCTGCCACGTTGCCGGCTTCCCCGTCAAGCTCTAAATCGGGGCTC

Figure 3B (cont'd V)



f1 IR Stem loop B
5433 CCTTTAGGGTCCGATTAGTGCTTACGGCACCTCGACCCCCAAAAAACTTGATTA

DraIII Stem loop C Primer-RNA
5489 GGGTGATGGTTCACGTAGTGGGCCATGCCCTGATAGACGGTTTCGCCCTTGA

Start Transcription VS-Synthese Nicking site Stem loop D Stem loop E
5545 CGTTGGAGTCCACGTTCTTAA TAGTGGACTCTTGTCCAAACTGGAACAACACTC

5601 AACCCATCTCGGTCTATTCTTGATTTATAAGGGATTTGCCGATTCGGCTA

Apol Apol Sspl
5657 TTGGTTAAAAAATGAGCTGATTTAACAAAAATTAAACGCGAATTTAACAAAATAT

5713 TAACGCTTACAATTTAC

Figure 3B (cont'd VI)



f1 IR Stem loop B
5433 CCTTTAGGGTCCGATTAGTGCTTACGGCACCTCGACCCCCAAAAAACTTGATTA

DraIII Stem loop C Primer-RNA
5489 GGGTGATGGTTCACGTAGTGGGCCATGCCCTGATAGACGGTTTCGCCCTTGATAGA

Start Transcription VS-Synthese Nicking site Stem loop D Stem loop E
5545 CGTTGGAGTCCACGTTCTTAATAGTGGACTCTTGTTCAAACCTGGAACAACACTC

Apol Apol Sspl
5601 AACCCATCTCGGTCTATTCTTGATTTATAAGGGATTTGCCGATTCGGCTA

5657 TTGGTTAAAAAATGAGCTGATTTAACAAAAATTAAACGCGAATTTAACAAAATAT

5713 TAACGCTTACAATTTAC

Figure 3B (cont'd VI)